

AMENDMENTS TO THE CLAIMS

Please cancel claims 30, 41-43 and 46-49 and amend claims 31-36 and 38-40, 44 and 50-51 as follows:

Claims 1-29 (canceled)

Claim 30 (cancelled)

Claim 31 (currently amended) The method according to claim ~~30~~ 50, wherein the RTN thin film is formed to function as a barrier film.

Claim 32 (currently amended) The method according to claim ~~30~~ 50, wherein part (b) is performed under a polishing pressure ranging from about 1 to about 4psi.

Claim 33 (currently amended) The method according to claim ~~30~~ 50, wherein part (b) is performed by using a rotary CMP system, and a table revolution number thereof ranges from about 10 to about 80 rpm.

Claim 34 (currently amended) The method according to claim ~~30~~ 50, wherein part (b) is performed in a linear CMP system where a table movement speed ranges from about 100 to about 600 ft/min.

Claim 35 (currently amended) The method according to claim ~~30~~ 50, wherein the weight percent of the ceric ammonium nitrate ranges from about 1 to about 10 wt% by total weight of the slurry composition.

Claim 36 (currently amended) The method according to claim ~~30~~ 50, wherein the acid is selected from the group consisting of HNO₃, H₂SO₄, HCl, H₃PO₄, and mixtures thereof.

Claim 37 (previously presented) The method according to claim 36, wherein the acid is HNO₃ which is present from about 1 to about 10 wt% by total weight of the slurry.

Claim 38 (currently amended) The method according to claim ~~30~~ 50, wherein the abrasive is selected from the group consisting of CeO₂, ZrO₂, Al₂O₃ and mixtures thereof.

Claim 39 (currently amended) The method according to claim ~~30~~ 50, wherein the average size of the abrasive is less than 1 μm .

Claim 40 (currently amended) The method according to claim ~~30~~ 50, wherein the abrasive is present in an amount ranging from about 1 to about 5 wt% by total weight of the slurry.

Claim 41 (cancelled)

Claim 42 (cancelled)

Claim 43 (cancelled)

Claim 44 (currently amended) The method according to claim ~~43~~ 50, wherein the buffer solution is a mixture of an organic acid and an organic acid salt.

Claim 45 (original) The method according to claim 44, wherein the buffer solution is a mixture of acetic acid and acetic acid salt.

Claim 46 (cancelled)

Claim 47 (cancelled)

Claim 48 (cancelled)

Claim 49 (cancelled)

Claim 50 (currently amended) A method of forming a ruthenium titanium nitride (RTN) pattern comprising:

(a) preparing a semiconductor substrate where a RTN thin film is formed; and

(b) performing CMP process on the RTN thin film using a slurry ~~comprising~~ consisting essentially of:

an oxidant consisting essentially of ceric ammonium nitrate $[(\text{NH}_4)_2\text{Ce}(\text{NO}_3)_6]$,

an abrasive consisting essentially of inorganic particles,

an acid and

a buffer solution, and

having pH ranging from 1 to less than 3.

Claim 51 (currently amended) A method of forming a RTN pattern comprising:

(a) preparing a semiconductor substrate where a RTN thin film is formed; and

(b) performing CMP process on the RTN thin film using a slurry ~~comprising a~~ consisting essentially of:

ceric ammonium nitrate $[(\text{NH}_4)_2\text{Ce}(\text{NO}_3)_6]$ present in an amount of 1-10 wt% based on a total weight of the slurry;

an abrasive consisting essentially of inorganic particles of 1-5 wt% based on the total weight of the slurry;

an acid consisting essentially of HNO_3 present in an amount of 1-10 wt% based on the total weight of the slurry;

a buffer solution consisting essentially of an organic acid and its salt in such amount as to keep up pH of said slurry as 1 to 7 less than 3; and
remaining water.